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ABSTRACT

This presentation described practical applications and quality tools for educators that are based on original classroom research and the theories of motivation, learning, profound knowledge, systems thinking, and service quality advanced by Karl Albrecht, William Glasser, and W. Edwards Deming. The presentation was conducted in a way that demonstrated the classroom methodology and quality teaching practices. Tools described were: (1) a flow chart which helps students visualize and understand basic instructional objectives and expectations; (2) an affinity diagram which organizes output from a brainstorming session, generates, organizes, and consolidates information, and helps an improvement team develop its ideas and collective thoughts about an issue or task; (3) a moment-of-truth chart which defines students' expectations both for the instructor and for themselves and focuses attention on specific services necessary to meet or exceed customer expectations; (4) process metrics which help the instructor and students assess the quality of each class meeting for purposes of continuous improvement; (5) a consensogram which is a quick, confidential tool to inventory and assess a group's level of understanding, agreement, or commitment; and (6) a run chart which is a line graph that focuses on trends in service. The paper includes copies of a deployment flow chart, an affinity diagram, moment of truth charts (student, instructor), consensogram, and run charts. (JB)

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A Quality Classroom: Quality Teaching Tools that Facilitate Student Success

NISOD International Conference on Teaching Excellence
University of Texas at Austin, 23 May 1995

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Abstract: Quality teaching and learning are essential for our students' and our society's continued economic competitiveness and quality of life. This interactive session introduces instructors to a quality approach and quality tools that motivate and improve students' capacity for self-directed learning and achievement. By modeling quality teaching, this session demonstrates effective instructional strategies and techniques that enhance students' opportunities for academic, economic, and personal success. Interactive exercises include preparation of an affinity diagram, moment of truth chart, and consensogram. Descriptive material illustrates a deployment flow chart and a run chart.

Introduction: Although there is no lack for criticism of contemporary schools and colleges, our schools system may be better now than it has ever been. While it is certain that our schools can and must do better, it is also clear that we have never asked as much from schools as we do today. In addition to their traditional responsibility for developing students' knowledge and skills, today's schools and colleges are at-times overwhelmed both by the complexity, diversity, and violence of contemporary communities and by the urgent demands of employers for skilled, self-directed, technologically prepared employees. While educating students for employment is neither the only nor necessarily the primary function of schools, the levels of quality and productivity required by industry are driving concurrent quality and productivity initiatives in schools.

Now that many businesses are striving for six sigma quality (99.99999998%) in their operations, the deficiencies of a schools system that is functioning at approximately one sigma quality (68.26%) are more apparent. In response to this gap between ever-increasing expectations for school performance and sometimes disappointing performance results, industry and education are forging new partnerships aimed at higher quality instruction and professional-technical preparation for all students. The prospective success of these partnerships will be enhanced by effective introduction of quality principles, methods, and tools in the classroom.

This presentation describes practical applications and quality tools for educators that are based on the presenter's original classroom research and the theories of motivation, learning, profound knowledge, systems thinking, and service quality advanced by Karl Albrecht, William Glasser, and W. Edwards Deming. For instructional purposes, this presentation will be conducted in a way that demonstrates the presenter's classroom methodology and quality teaching practices.

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Flow Chart: In a quality classroom, students' attentiveness, preparation, and self-direction increases when the curricular objectives and instructor's expectations are both clear and understood. A flow chart is a core quality tool that helps students visualize and understand basic instructional objectives and expectations. A flow chart maps all of the events, steps, activities, or tasks in a process. It is useful for; defining, describing, and documenting processes; for developing agreement and mutual understanding of a process; and, for improving a process through simplification or redesign. Figure 1 is a deployment flow chart that describes the curriculum and instructional activities for MGMT 147 Quality Schools: Strengthening Education Through Continuous Improvement.

Shared Objectives: As a professional educator and experienced presenter, I have defined the following objectives for this session:

1. Develop session participants' awareness and knowledge of quality tools that are appropriate for education.
2. Emphasize critical linkages between a student's quality of learning, quality of employment, and quality of life.
3. Demonstrate a quality teaching approach that motivates and optimizes students' capacity for self-directed and collaborative learning.
4. Demonstrate effective use of quality teaching tools.
5. [To be determined by session participants.]
6. [To be determined by session participants.]

Although I have confidence that these objectives will meet the expectations of most session participants, quality is defined by the customer — not by the service provider. I, therefore, will appreciate your input on the objectives for this session and will use this input in addition to the previously stated training objectives. An affinity diagram and moment of truth chart are effective quality tools to solicit and organize student input.

Affinity Diagram: To facilitate input from all session participants, we will use an affinity diagram. An affinity diagram is a core quality tool that facilitates the generation and organization of information from members of a group or team. An affinity diagram: organizes output from a brainstorming session; generates, organizes, and consolidates information; and, helps an improvement team develop its ideas and collective thoughts about an issue or task. To prepare our affinity diagram, I ask each session participant today to write the most important expectation you have for this session to be successful on the post-it note provided. When you have recorded your expectation, turn the note upside down and pass it forward. I will collect your individual post-its and group them into similar categories that reflect the general expectations of this group. We will use this information to modify or add to the previously stated objectives for this session. [Construct an affinity diagram with session participants.]

At the first class meeting of BSA 235 Human Relations in Business at Santa Fe Community

College, students were asked to complete an affinity diagram to supplement the instructor's prescribed objectives. The student's requirements for training are described in Figure 2.

Moment of Truth Chart: After establishing clear instructional objectives, it is useful to determine students' expectations for the teaching and learning processes that are essential to instructional success. A quality teacher may use a Moment of Truth Chart (MOT Chart) to define students' expectations both for the instructor and for themselves. A MOT Chart is a core quality tool that describes customer expectations for quality services at key service delivery points (cf. Karl Albrecht, *The Only Thing That Matters: Bringing the Power of the Customer into the Center of Your Business*). It is used to focus attention on specific services necessary to meet or exceed customer expectations. A MOT Chart is a simple chart with three columns. The center column lists the customer's standard expectations. The left column lists negative factors. The right column lists delightful factors. Figure 3 is a MOT Chart prepared by BSA 235 students that describes their expectations for effective teaching. After completing this chart, the instructor asked each student to complete a MOT Chart to describe the student's expectations for their own effective learning. Figure 4 is a MOT Chart that summarizes students' expectations for themselves.

Together with the affinity diagram, a MOT Chart helps develop students' ownership of the course and the instructional processes. This ownership is an important driver of intrinsic motivation that ultimately contributes to higher levels of student self-direction, achievement and lifelong learning (cf. William Glasser, *The Quality School*).

What are your basic expectations for effective presentation of this conference session? Your expectations for a delightful presentation? What negative factors might contribute to a poor presentation? [Construct a MOT Chart with session participants.]

Process Metrics: A quality teacher appreciates the utility and value of ongoing measures of instructional performance. These process metrics help the instructor and students assess the quality of each class meeting for purposes of continuous improvement. High process measures assure the instructor and students that teaching and learning is effective. Negative trends or low process measures suggest a need for problem solving, root cause analysis, and improvement of teaching and learning processes. A consensogram and run chart are quality tools that quality teachers may use to assess and evaluate the effectiveness of instructional processes.

Consensogram: At the conclusion of each class meeting or instructional unit, a quality teacher may invite student assessment and feedback on instructional delivery for purposes of continuous improvement. A consensogram is a useful tool to facilitate constructive assessment. A consensogram is a quick, confidential tool to inventory and assess a group's level of understanding, agreement, or commitment. Like a histogram, a consensogram: is a bar graph that describes the aggregation of individual responses; shows central location, shape, and spread of individual responses; is a means to gain knowledge about the group; and, is a predictor of future

group performance (if the system is stable). At the conclusion of each class meeting, students were asked how useful they believed the time they spent in this class was. On a five point scale, with 5 = most useful and 1 = not useful at all, each student confidentially recorded their strength of preference on a post-it note. After collecting the post-it notes and constructing the consensogram, the instructor invited comments from students on instructional strengths and instructional areas for improvement. Figure 5 is a consensogram that summarizes data collected for all class meetings taught by the presenter in the 1995 spring semester. It is a summary picture that describes how useful students believed each class meeting was.

On a 5 point scale, with 5 = most useful and 1 = not useful at all, how useful do you believe this presentation has been for you so far. Record your strength of preference on a post-it note, turn it upside down, and pass it forward so that we may construct a consensogram. What have you found useful about this presentation so far? What questions or suggestions for improvement do you have? [Construct a consensogram with session participants.]

Run Chart: Trend information and comparative measures are both important indicators of classroom quality and useful guides for continuous improvement. A run chart is a core quality tool that is used to examine the quality of an activity, system, or service over time. A run chart is a line graph of data that focuses on positive and negative trends or cycles in service quality. Run charts help instructors manage their classrooms as integrated systems with understandable and predictable variation if the system is stable (cf. W. Edwards Deming, *The New Economics*). Figure 6 is a run chart that describes the running measure of usefulness for each class meeting as defined by students in BSA 235. Data was compiled from the consensogram constructed at the conclusion of each class and charted in real time on a line graph. A significant class discussion occurred in this course following the 6th class meeting when the quality measure was at its lowest and trending downward. Constructive suggestions from students for instructional improvement at this point reversed a downward trend and restored high process measures for the remainder of the semester.

Conclusion: The quality principles, methods, and tools suggested in this presentation have resulted in high levels of student satisfaction as defined by end-of-class student evaluations (cf. Figure 7). Students in BSA 235, for example, rated the course 4.85 on a 5 point scale. In addition to student satisfaction, there is preliminary evidence that implementation of quality in the classroom is increasing student achievement, retention, and employability. More research will be valuable in this area to confirm a correlation between quality teaching and instructional outcomes.

Brian Cooke is director of the Institute for Excellence, an education and management consulting firm that assists organizations and individual leaders with improving planning, productivity, performance, customer satisfaction, and quality of work life. Brian teaches courses in quality operations and business management at Santa Fe Community College and at the University of New Mexico. Brian recently published *Frank Boyden of Deerfield: The Vision and Politics of an Educational Idealist* (New York; Madison Books, 1994).

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Figure 1 Deployment Flow Chart

Quality Schools: Strengthening Education Through Continuous Quality Improvement
Brian Cooke, Santa Fe Community College

?? QUALITY QUESTIONS ??	COOKE	COLLEAGUES
A. *Hello, my name is _____.* *Who are you?*	Welcome	Icebreakers
B. *Why are we here?* *What do we want to do?*	Background; Objectives	Affinity Diagram
C. *What are we going to do?* *What do we expect?* *How will we conduct ourselves?*	Agenda; Deployment Flow Chart; Expectations; Parking Lot; Ground Rules	Moment of Truth Chart
D. *Why is quality important?*	The Social & Economic Imperatives for Quality Education	Consensogram
E. *What does poor quality cost?*	Poor Quality: The Costs of Non-conformance	Cause and Effect Diagram
F. *What is quality education?*	Examples of Quality Education; Quality Classroom Management	Rank Voting

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A. **Welcome and Introductions**
Activities and Quality Tools: Icebreakers

B. **Background and General Objectives**
Activity and Quality Tool: Affinity Diagram

C. **Agenda, Expectations and Ground Rules**
Activities and Quality Tools: Deployment Flow Chart, Moment-of-Truth Charts, Ground Rules, Parking Lot

D. **The Demand for Quality Education**
Activity and Quality Tool: Consensogram [Histogram]

E. **What Quality is Not**
Activity and Quality Tool: Cause and Effect (Fishbone) Diagram

F. **What Quality Education is**
Activity and Quality Tool: Rank Voting

G. **Foundation Principles for Quality**
Activity and Quality Tool: Gallery Walk

H. **Customer Service**
Activities and Quality Tools: Customer Identification List, Cycle of Service

I. **Systems Thinking**
Activity and Quality Tool: The Red Bead Game, Run Chart

J. **Variation**
Activities and Quality Tools: M & M 's , Check List, Pareto Diagram

K. **Planned Change**
Activities and Quality Tools: Force-Field Analysis, Plan, Do, Study, Act

L. **Examples of Quality School Improvement Projects**
Activity and Quality Tool: Dyads

M. **Project Planning**
Activity and Quality Tool: Background Information Sheet

N/O **Lessons Learned; Closing Thoughts, Suggestions & Caveats**
Activity and Quality Tools: Radar Chart, Action Plan, Evaluation

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Figure 2 Affinity Diagram

BSA 235 Human Relations in Business

For this class to be successful, I need to _____.

* Learn how to coordinate shared agreement and problemsolving across all functions in an organization
* Learn how to develop teamwork and group performance
* Increase self-confidence
* Learn to lead effectively
* Class credit
* Increased knowledge and understanding of my business or industry
* Increased ability to know and understand other people and coworkers
* Develop knowledge and skills in managing disagreement
* Learn how to understand and manage organizational change
* Develop personal and professional direction and growth
* Learn how to improve communication in the workplace
* Recognition and rewards
* Learn what human relations in organizations is

Course Description: This course is a study of basic tendencies and characteristics of organizational behavior. It focuses on the human aspects of business and how they influence productivity, morale, and management practice. Topics include individual and group behavior, leadership, motivation, communication, productivity, problem solving, and conflict resolution.

Specific Objectives:

At the conclusion of this course, the student should be able to:

1. Recognize basic tendencies and characteristics of human behavior in organizations.
2. Apply theoretical knowledge of human relations in organizations to practical personal and professional situations.
3. Explain effective approaches that increase employee productivity and satisfaction.
4. Recognize principle obstacles to organizational effectiveness.
5. Recommend strategies for resolving misunderstanding, disagreement, and conflict in an organization.
6. Demonstrate increased personal confidence and skills that contribute to increased productivity, satisfaction, and professional success.
7.
8.

Figure 3

MOMENT OF TRUTH CHART – Instructor

Name of Process/Service/Product: TEACHING BSA 235

Name of Process Owner: Brian Cooke, Instructor of Business Management

Moment of Truth	Effective Teaching

Negative Factors	Basic Expectations	Delightful Factors
Fails to meet basic expectations	Is knowledgeable in this subject area	Has an outstanding appearance
Ignores students	Is able to express and explain information clearly	Works with students outside of class
Lectures too much	Responds positively and appreciates students and students' stresses	Provides dinner for students
Teaches straight from the book	Is flexible, responsive, and adaptable to student needs	Surprises students (pleasantly)
Is not approachable	Is prompt, punctual, and prepared	Lets students out early
Thinks he knows it all	Has a sense of humor	Moves class meeting places to different course-related venues
Has poor communication with students	Is enthusiastic	Has superior knowledge, interest, and care for students
Is one dimensional		
Is not interactive		
Does not respect students		
Is not knowledgeable		

Date completed: 18 Jan 95 Date to be revised: Midterm 15 March 95

Figure 4

MOMENT OF TRUTH CHART — Student

Name of Process/Service/Product: SUCCESS IN BSA 235

Name of Process Owner: BSA 235 Student

Moment of Truth	Effective Learning

Negative Factors	Basic Expectations	Delightful Factors
High stress at work	Be in every class	Good grades
Not prepared	Pay close attention	Organized
Fell behind in classwork	Participate in class	Achieve the goals I set
Coming late	Do all work promptly	Learn a lot
Missing Class	Learn and retain information	Make new friends
Bored/Tired	Get an "A"	Laugh

Date completed: 18 January 95 Date to be revised: Midterm 15 March 1995

Figure 5 Consensogram

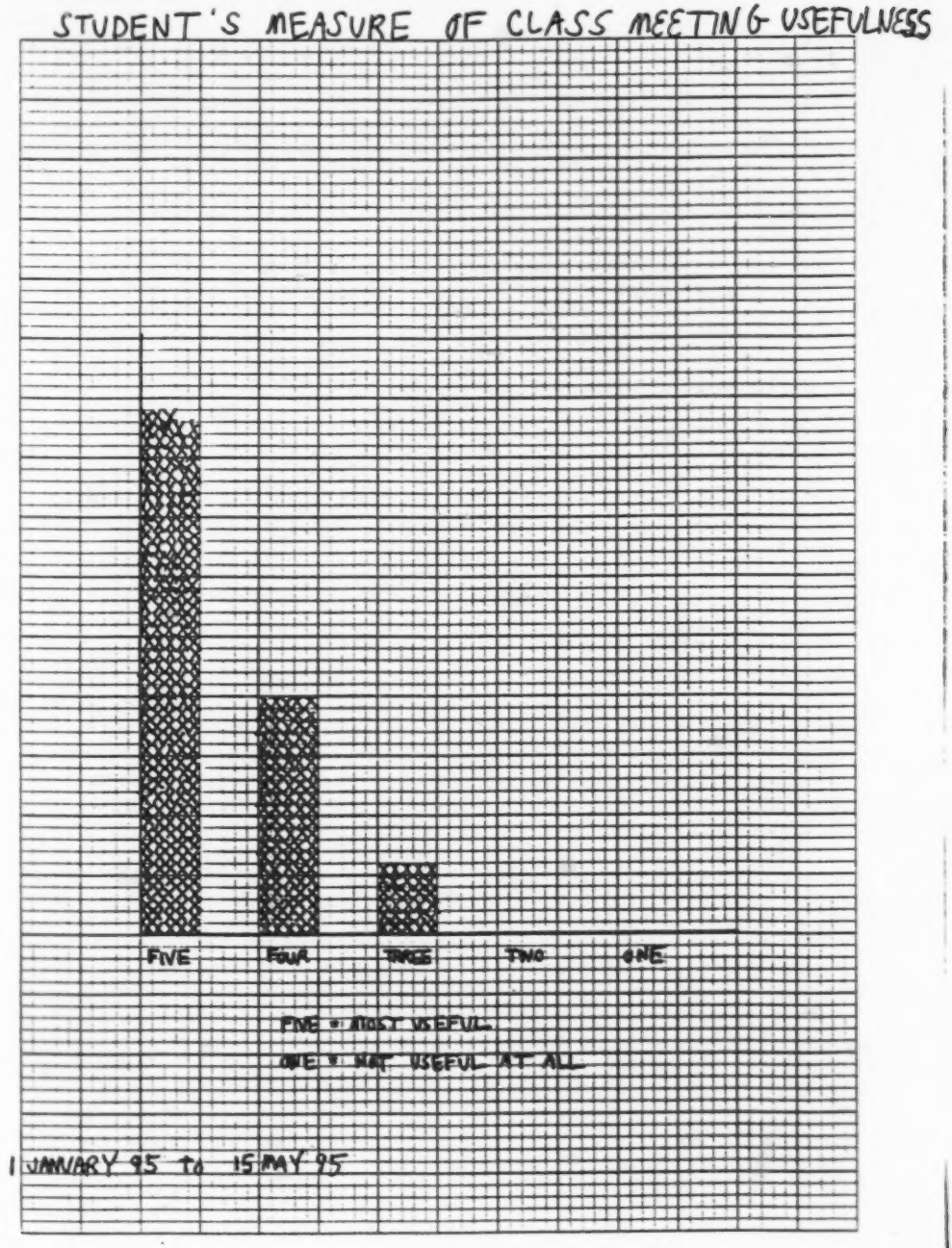

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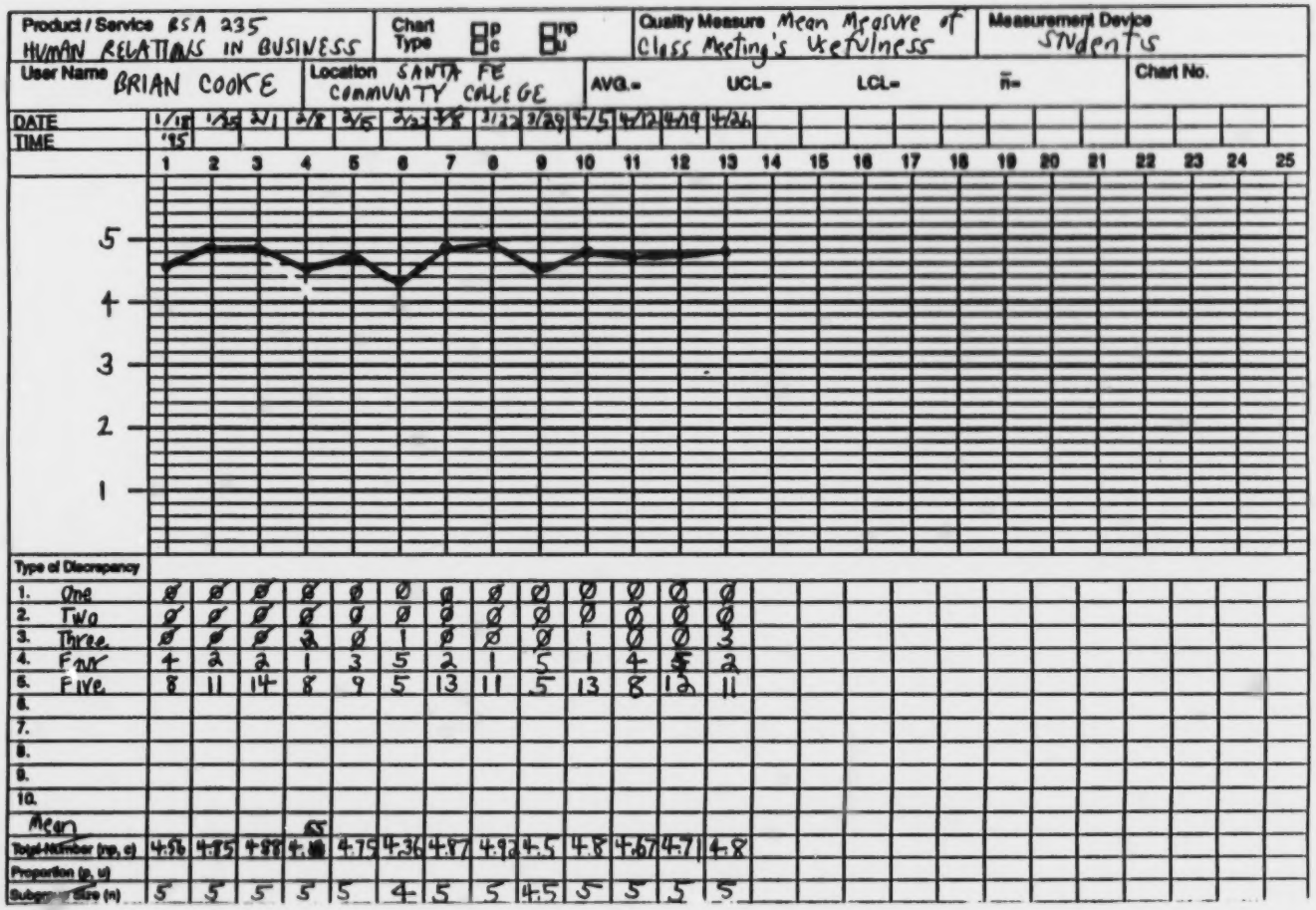
Figure 6 Run Chart



Product / Service	BSA 235 HUMAN RELATIONS IN BUSINESS
Chart Type	p, np, c, u
Quality Measure	Mean Measure of Class Meeting's Usefulness
Measurement Device	Students
User Name	BRIAN COOKE
Location	SANTA FE COMMUNITY COLLEGE
AVG.=	UCL.= LCL.= n̄=
Chart No.	

DATE	1/15	1/25	2/1	2/8	2/15	2/22	2/28	3/22	3/29	4/5	4/12	4/19	4/26
TIME	'95												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Type of Discrepancy													
1. One	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Two	0	0	0	0	0	0	0	0	0	0	0	0	0
3. Three	0	0	0	2	0	1	0	0	0	1	0	0	3
4. Four	4	2	2	1	3	5	2	1	5	1	4	5	2
5. Five	8	11	14	8	9	5	13	11	5	13	8	12	11
6.													
7.													
8.													
9.													
10.													
Mean				65									
Total Number (np, c)	4.56	4.85	4.88	4.18	4.75	4.36	4.87	4.92	4.5	4.8	4.67	4.71	4.8
Proportion (p, u)													
Subgroup Size (n)	5	5	5	5	5	4	5	5	4.5	5	5	5	5

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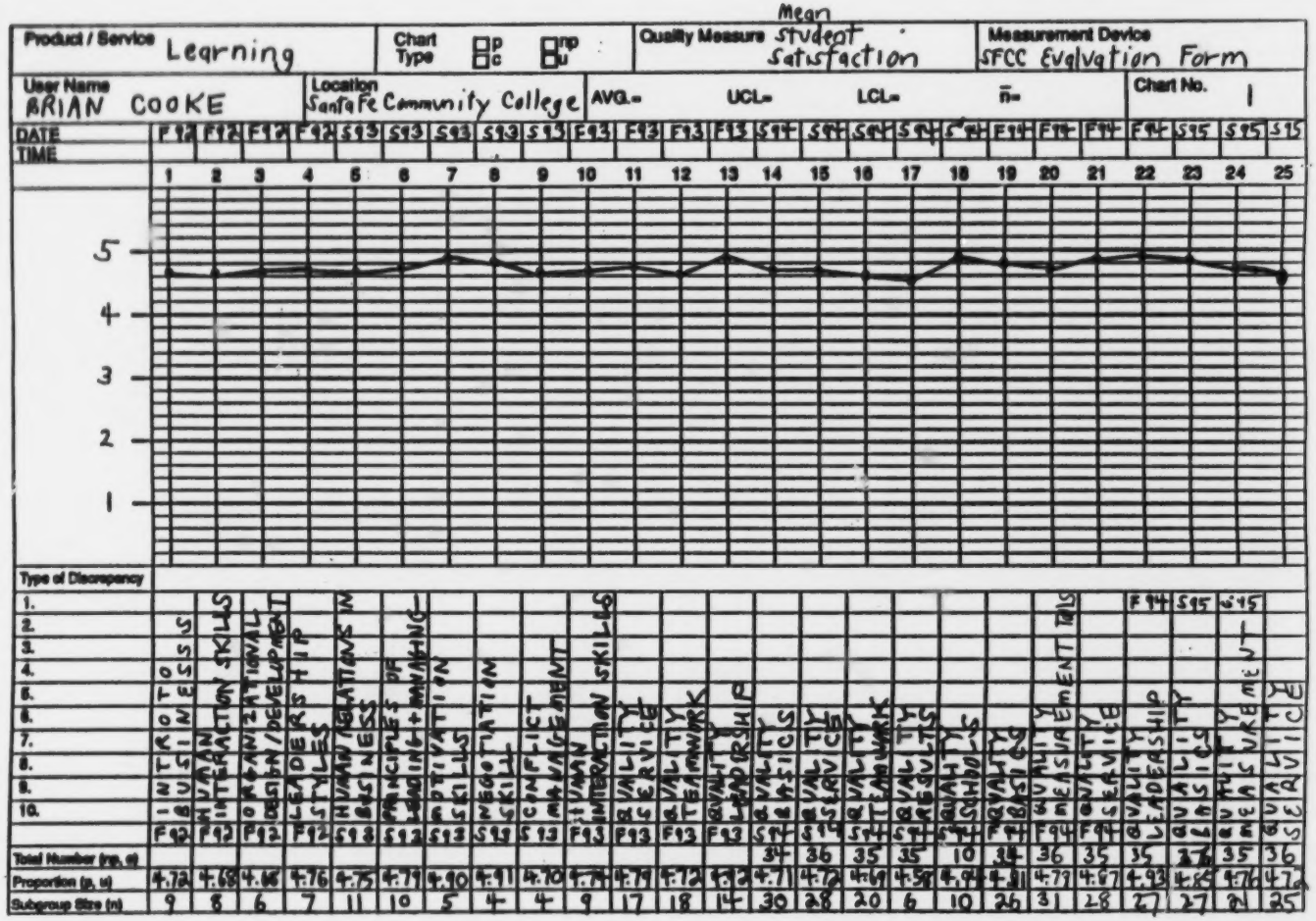
Figure 7 Run Chart



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